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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,636	08/28/2003	Satoshi Fukuda	520.43064X00	5550
24956 7590 02/23/2007 MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314			EXAMINER DAYE, CHELCIE L	
			ART UNIT	PAPER NUMBER

2161

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/649,636

Applicant(s)

FUKUDA ET AL.

Examiner

Chelcie Daye

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. This action is issued in response to applicant's amendment filed November 17, 2006.
2. Claims 1-20 are presented. No claims added and none cancelled.
3. Claims 1-20 are pending.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
5. Claims 2,4,9,10,11,and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, newly amended claims 2,4,9,10,11,and 19 recite the limitation "wherein the theoretical performance value is a performance value at which the disk group theoretically exhibits maximum performance". Applicant's description of a theoretical performance value being defined by its own term is deemed ambiguous and not further clarifying nor limiting to the claim language. It is unclear to the examiner what "theory" applicant's are referring to, in order to "exhibit maximum performance". As such, further corrections are needed.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalal (US Patent Application No. 20040120225) filed December 20, 2002, in view of Lowenthal (US Patent No. 6,035,306) filed November 24, 1997.**

Regarding Claim 1, Dalal discloses a volume allocating method in a storage management system for managing operation of a storage device connected via a network by use of a storage management server, the volume allocating method comprising:

receiving, via the network (Fig.10, item 1019, Dalal), a condition for allocating a volume, wherein the condition is designated by a client ([0086], lines 2-19, Dalal)<sup>1</sup>; and

obtaining information on operation history of the storage device from a memory device for storing (Fig.12, "History"; [0087], lines 1-7, Dalal), as history, information including a performance value of a disk group obtained upon actually operating the storage device ([0101], lines 10-21, Dalal). However Dalal is silent with respect to obtaining from the storage device information on specification

values including a performance value of the storage device. On the other hand, Lowenthal discloses obtaining from the storage device information on specification values including a performance value of the storage device (column 7, lines 35-46, Lowenthal). Dalal and Lowenthal are analogous art because they are from the same field of endeavor of improving performance of storage. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Lowenthal's teachings into the Dalal system. A skilled artisan would have been motivated to combine as suggested by Lowenthal at column 2, lines 30-43, in order to provide a tool for optimization of data and performance. The combination of Dalal in view Lowenthal disclose, determining at least one candidate of an allocable volume by obtaining a performance margin ([0138], lines 1-12, Dalal)<sup>2</sup> and using the performance margin to determine the at least one candidate of an allocable volume ([0088], lines 1-7, Dalal) in accordance with the received condition for allocating the volume ([0086], lines 2-19, Dalal) and based on the information on the operation history of the storage device and the information on specification values of the storage device (column 7, lines 35-46, Lowenthal); transmitting information on the volume of the at least one candidate to the client ([0105], lines 1-3, Dalal); receiving the information on the volume of the at least one candidate in the client ([0105], lines 3-7 and [0114], lines 15-22, Dalal); receiving from the client a request to allocate a volume selected from the at least one candidate ([0113], lines 1-11, Dalal); and

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<sup>1</sup> Examiner Notes: "Requirements" correspond to condition and "Obtaining from a user" corresponds to

Art Unit: 2161

allocating the volume to the storage device in accordance with the information on the volume selected from the at least one candidate ([0202], lines 1-6, Dalal).

Regarding Claim 18, the combination of Dalal in view of Lowenthal, disclose a volume allocating method further comprising:

displaying information including at least the performance value and reliability corresponding to the policy (Figs.15 and 22, Dalal); an index for selecting a memory capacity (Fig.19; [0142], lines 1-8, Dalal), and an index for selecting the policy on the display screen of the client so as to designate the condition for allocating the volume by the client (Fig.16; [0139], lines 1-11, Dalal).

### ***Allowable Subject Matter***

Claims 4,9,11, and 19, would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in the Office Action.

Claims 2 and 10, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office Action and to include all of the limitations of the base claim and any intervening claims.

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receiving by a client.

<sup>2</sup> Examiner Notes: "Performance parameter" corresponds to performance margin.

***Response to Arguments***

Applicant's arguments with respect to claims 1,2,4, and 19, have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2161

***Points of Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chelcie Daye whose telephone number is 571-272-3891. The examiner can normally be reached on M-F, 7:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chelcie Daye  
Patent Examiner  
Technology Center 2100  
February 15, 2007

*Apu Mofiz*  
Apu Mofiz  
Supervisor, Art Unit 2161